Annual Report of Operations for Year 2020

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
13-0012

Facility & Owner Information

Facility Name: Bernie Kai Kai Gobin Salmon Hatchery	
Operator Name (Permittee): Tulalip Tribes of Washington	
Address: 6406 Marine Drive Tulalip, WA 98271	
Email: mcrewson@tulaliptribes-nsn.gov	Phone: 360-716-4626; (425) 754 0955
Owner Name (if different from operator): Same	
Email: Same	Phone: Same

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

Updated and reviewed in 2020 for NOI updates, latest facilities improvements and for general annual review purposes.

EPA General Permit WAG130000 - Annual Report

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 56,844lbs weight gain, 82,029 lbs total biomass

Pounds of food fed to fish during the maximum month:
8,389 lbs (June)

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
BY18 Coho	29,528	No release/harvests, fish transferred to 13-0013 for release. * wt = biomass transferred	N/A
BY19 Chinook	26,992	No release/harvests, fish transferred to 13-0013 for release. * wt = biomass transferred	N/A
BY19 Coho	24,608	No release/harvest/spawn, remained on station. * wt is calendar year biomass	N/A
BY19 Chum	902	No release/harvests, fish transferred to 13-0014 for release. * wt = biomass transferred	N/A

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	24,438	2,369	July	9,278	3,594
February	28,416	3,015	August	10,940	4,102
March	32,059	4,561	September	15,087	3,432
April	33,571	5,563	October	18,019	3,916
May	34,190	6,963	November	24,479	4,620
June	36,365	8,389	December	24,608	396

Additional Comments: * NOTE: NO FISH ARE RELEASED FROM THIS FACILITY (13-0012). ALL SALMON ARE PERIODICALLY TRANSFERRED TO THE OTHER TWO FACILITIES (13-0013 AND 13-0014) FOR RELEASE. THOSE FACILITY WEIGHTS START WHERE THESE LEFT OFF.

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
122 Lb dead eggs	Sept. - Dec. 2020	Offsite burial pit
44 Lb dead fish	Jan. - Dec. 2020	Offsite burial pit

Additional Comments:

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish

Additional Comments:

N/A. No incidents of mass mortality

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

None

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Periodic/Monthly	None needed	

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year.**
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ☐ No	Azithromycin
☐ Yes ☐ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Chlorine
☐ Yes ☐ No	Draxxin
☐ Yes ☐ No	Erythromycin - injectable
☐ Yes ☐ No	Erythromycin - medicated feed
■ Yes ☐ No	Florfenicol (Aquaflor)
■ Yes ☐ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Herbicide - describe:
☐ Yes ☐ No	Hormone - describe:
☐ Yes ☐ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Oxytetracycline
☐ Yes ☐ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Romet
☐ Yes ☐ No	SLICE (emamectin benzoate)
☐ Yes ☐ No	Sodium Chloride - salt
☐ Yes ☐ No	Vibrio vaccine
☐ Yes ☐ No	Other:
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Treatment 1: Parasite-S			Generic Name: Formalin (37% formaldehyde)
Reason for use: Control fungus on incubating eggs			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units): 2.4-14.7L (8.5 L avg.)	Total quantity of formulated product used in past year (specify units): 391.6L	
Date(s) of treatment: 9/22,24,26,28, 10/1,3,5,7,9,11,13,15,17,19,21,23,25,27,11/16,18,20,23,25,27,30,12/2,4,6,8,10,12			Total number of treatments in past year: 31
Maximum daily volume of treated water: 3,150 gal	Treatment concentration (specify units): 1,667 mg/L formalin	Duration and frequency of treatment(s): 15 minutes, 1X/day, alternating days	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): * formalin detention tank
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * We did not fill out the flow thru sheet for these egg treatments because we measured the concentration directly with test strips and bench chemistry and confirmed we are well within limits. Treated incubation effluent goes into formalin dilution tanks that provide ~ 40- to 60-fold dilution. We reconfigured the drain lines from the tanks to enter other existing untreated effluents that provide additional ~7.5- to 10-fold dilution resulting in final concentration (C) in effluent <1 mg/L or 10>C >1 at highest level in effluent.			

Brand Name: Treatment 2: Parasite-S			Generic Name: Formalin (37% formaldehyde)
Reason for use: External parasites on fish - Trichodina			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 8LX3treatmentsX4raceways	Total quantity of formulated product used in past year (specify units): 96L	
Date(s) of treatment: 6/1, 3, 5			Total number of treatments in past year: 3 X 4 raceways = 12
Maximum daily volume of treated water: 86,640 gal (90.25 X4	Treatment concentration (specify units): 25 mg/L	Duration and frequency of treatment(s): 8L X 3treatments X 4raceways X 4hours	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed 8LX3treatmentsX4racewaysX4hours,90.25gp ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatments over 4 hours at 25mg/L. Effluent conc. significantly <25 ppm if ANY organic binding			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

TREATMENT 2 **Flow-Through Treatments**	
Tank Volume	67,960 Liters
Calculated Flow Rate	1,367 Liters/Minute
Duration of Treatment	240 Minutes
Desired Flow-Through Treatment Concentration of Product	<25 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	133 mL/Minute
Total Volume of Product Needed	32 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: <25 mg/L formalin Active Ingredient: 9.3 mg/L formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	3,386,800 gallons per day Specify Units
Maximum % of Facility Discharge Treated	2.56% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Treatment 3: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: External parasites on fish - Ichthyophthirius multifiliis			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units) 20.9LX10treat'sX4raceways	Total quantity of formulated product used in past year (specify units): 836.8L	
Date(s) of treatment: 6/23/20 - 7/2/20 (10 days)			Total number of treatments in past year: 10 X 4 raceways=40
Maximum daily volume of treated water: 110,640 gal 461gpm	Treatment concentration (specify units): 25 mg/L formalin	Duration and frequency of treatment(s): 20.9L (4-hour treatment) X 10 treatments X 4 raceways	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatments over 4 hours at 25mg/L. Effluent conc. assumed significantly <25 ppm if ANY organic binding			

Brand Name: Treatment 4: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Fungus on coho - Saprolegnia			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 11.9L/2h treatmentX3 days)	Total quantity of formulated product used in past year (specify units): 36liters	
Date(s) of treatment: 7/22, 7/23, 7/24			Total number of treatments in past year: 3
Maximum daily volume of treated water: 126,000 gal	Treatment concentration (specify units): 50 mg/L	Duration and frequency of treatment(s): 11.9L (2-hour treat.) X 3treatments X 1 pond @525gpm diluted 2.1X to 23.6mg/L	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatments over 2 hours at 50mg/L. Treated effluent (525gpm) diluted 2.1 times into 1,110gpm to 23.6mg/L			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Treatment 3	**Static Bath Treatments**
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments	
Tank Volume	67,960 Liters
Calculated Flow Rate	1,745 Liters/Minute
Duration of Treatment	240 Minutes
Desired Flow-Through Treatment Concentration of Product	<25 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	349 mL/Minute
Total Volume of Product Needed	83.7 liters Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: <25 mg/L formalin Active Ingredient: 9.3 mg/L formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	3,903,840 gallons per day Specify Units
Maximum % of Facility Discharge Treated	2.83% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Treatment 4 — Flow-Through Treatments	
Tank Volume	418,083 Liters
Calculated Flow Rate	1,987 Liters/Minute
Duration of Treatment	120 Minutes
Desired Flow-Through Treatment Concentration of Product	50 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	100 mL/Minute
Total Volume of Product Needed	12.0 liters Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 23.6 mg/L Formalin Active Ingredient: 8.8 mg/L Formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	3,805,920 liters per day Specify Units
Maximum % of Facility Discharge Treated	3.31% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Treatment 5: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Control fungus on coho - Saprolegnia			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units) 9.2L/2h treatmentX3 d	Total quantity of formulated product used in past year (specify units): 27.6L	
Date(s) of treatment: 8/17, 8/18, 8/19			Total number of treatments in past year: 3
Maximum daily volume of treated water: 97,400 gal	Treatment concentration (specify units): 50 mg/L	Duration and frequency of treatment(s): 9.2L (2-hour treat.) X 3treatments X 1 pond @406gpm diluted 2.7X to 18.3mg/L	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatments over 2 hours at 50mg/L. Treated effluent (406gpm) diluted 2.7 times into 1,110gpm to 18.3mg/L			

Brand Name: Treatment 6: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Control fungus on coho - Saprolegnia			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 8.2L/2h treatment	Total quantity of formulated product used in past year (specify units): 8.2 Liters	
Date(s) of treatment: 8/24/20			Total number of treatments in past year: 1
Maximum daily volume of treated water: 87,120 gal	Treatment concentration (specify units): 50 mg/L	Duration and frequency of treatment(s): 8.2L (2-hour treat.) X 1treatments X 1 pond @363gpm diluted 4.3X to 11.5 mg/L	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatments over 2 hours at 50mg/L. Treated effluent (363gpm) diluted 4.3 times into 1,575gpm to 11.5 mg/L			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Treatment 5 — Flow-Through Treatments	
Tank Volume	466,389 Liters
Calculated Flow Rate	1,537 Liters/Minute
Duration of Treatment	120 Minutes
Desired Flow-Through Treatment Concentration of Product	50 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	76.7 mL/Minute
Total Volume of Product Needed	9.20 liters Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 18.3 mg/L Formalin Active Ingredient: 6.8 mg/L Formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	2,927,520 gallons per day Specify Units
.Maximum % of Facility Discharge Treated	2.98% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Treatment 6	**Static Bath Treatments**
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments	
Tank Volume	1,189,306 Liters
Calculated Flow Rate	1,374 Liters/Minute
Duration of Treatment	120 Minutes
Desired Flow-Through Treatment Concentration of Product	50 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	68.3 mL/Minute
Total Volume of Product Needed	8.2 liters Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 11.5 mg/L Formalin Active Ingredient: 4.3 mg/L Formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	2,927,520 gallons per day Specify Units
Maximum % of Facility Discharge Treated	2.98% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Treatment #7: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Control fungus on coho - Saprolegnia			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units) 8.2L/2h treatment X 1	Total quantity of formulated product used in past year (specify units): 8.2L	
Date(s) of treatment: 8/28/20			Total number of treatments in past year: 1
Maximum daily volume of treated water: 88,160 gal	Treatment concentration (specify units): 50 mg/L formalin	Duration and frequency of treatment(s): 8.2L (2-hour treat.) X 1treatments X 1 pond @359gpm diluted 3.9X to 13.0mg/L	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatment over 2 hours at 50mg/L. Treated effluent (359gpm) diluted 3.9 times into 1,383gpm to 13.0mg/L.			

Brand Name: Treatment #8: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Control fungus on coho - Saprolegnia			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 11.0L/2h treatment X 1 day	Total quantity of formulated product used in past year (specify units): 11.0 liters	
Date(s) of treatment: 9/4/20			Total number of treatments in past year: 1
Maximum daily volume of treated water: 115,200 gal	Treatment concentration (specify units): 50 mg/L	Duration and frequency of treatment(s): 11.0 L (2-hour treat.) X 1treatment X 1 pond @480gpm diluted 3.3X to 15.1 mg/L	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatment over 2 hours at 50mg/L. Treated effluent (480gpm) diluted 3.3 times into 1,586gpm to 15.1mg/L.			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Treatment 7 — Flow-Through Treatments	
Tank Volume	1,189,306 Liters
Calculated Flow Rate	1,359 Liters/Minute
Duration of Treatment	120 Minutes
Desired Flow-Through Treatment Concentration of Product	50 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	68.3 mL/Minute
Total Volume of Product Needed	8.2 liters Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 13.0 mg/L Formalin Active Ingredient: 4.8 mg/L Formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	2,927,520 gallons per day Specify Units
Maximum % of Facility Discharge Treated	2.94% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Treatment 8 **Flow-Through Treatments**	
Tank Volume	1,189,306 Liters
Calculated Flow Rate	1,817 Liters/Minute
Duration of Treatment	120 Minutes
Desired Flow-Through Treatment Concentration of Product	50 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	91.7 mL/Minute
Total Volume of Product Needed	11.0 liters Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 15.1 mg/L Formalin Active Ingredient: 5.6 mg/L Formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	2,927,520 gallons per day Specify Units
Maximum % of Facility Discharge Treated	3.94% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Treatment 9: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Control fungus on coho - Saprolegnia			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units) 9.8L/2h treatment X 1	Total quantity of formulated product used in past year (specify units): 9.8 L	
Date(s) of treatment: 9/21/20			Total number of treatments in past year: 1
Maximum daily volume of treated water: 207,120 gal	Treatment concentration (specify units): 50 mg/L formalin	Duration and frequency of treatment(s): 9.8L (2-hour treat.) X 1treatments X 1 pond @863gpm diluted 2.2X to 23.1mg/L	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatment over 2 hours at 50mg/L. Treated effluent (863gpm) diluted 2.2 times into 1,872gpm to 23.1mg/L.			

Brand Name:		Generic Name:	
Reason for use:			
☐ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	☐ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

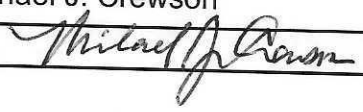
Treatment 9 **Flow-Through Treatments**	
Tank Volume	1,189,306 Liters
Calculated Flow Rate	3,267 Liters/Minute
Duration of Treatment	120 Minutes
Desired Flow-Through Treatment Concentration of Product	50 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	81.7 mL/Minute
Total Volume of Product Needed	9.8 liters Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 23.1 mg/L Formalin Active Ingredient: 8.5 mg/L Formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	3,041,280 gallons per day Specify Units
Maximum % of Facility Discharge Treated	6.81% % of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
None

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed name of person signing	Title
Michael J. Crewson	Salmonid Enhancement Scientist
Applicant Signature 	Date Signed 1/20/20

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140